

JC07 Rec'd PCT/PTO 0 8 JAN 2002

FORM PTO-1390 (REV 10-95)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER UDL-099	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 10/030498	
INTERNATIONAL APPLICATION NO. PCT/GB00/02620		INTERNATIONAL FILING DATE 07 July 2000		PRIORITY DATE CLAIMED 10 July 1999	
TITLE OF INVENTION Toy Building Blocks					
APPLICANT(S) FOR DO/EO/US DAVIS, Nicholas and RASK, Jorgen Pedersen					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). 4. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date. 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)). 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> have been transmitted by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). 					
Items 11. to 16. below concern document(s) or information included:					
<ol style="list-style-type: none"> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 14. <input type="checkbox"/> A substitute specification. 15. <input type="checkbox"/> A change of power of attorney and/or address letter. 16. <input type="checkbox"/> Other items or information: 					

CALCULATIONS PTO USE ONLY

21. ☒ The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. \$ 1040

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$ 890

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$ 740

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$ 710

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

\$ 890

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	36 - 20 =	16	x \$18.00	\$ 288
Independent claims	5 - 3 =	2	x \$84.00	\$ 168
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$270.00	\$

TOTAL OF ABOVE CALCULATIONS =

☒ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.

SUBTOTAL =

Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).

TOTAL NATIONAL FEE =

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

TOTAL FEES ENCLOSED =

Amount to be refunded:

charged:

a. ☒ A check in the amount of \$ 673.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1732. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Gordon & Jacobson, P.C.
65 Woods End Road
Stamford, CT 06905
US

SIGNATURE

David S. Jacobson

NAME

39,235

REGISTRATION NUMBER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Nicholas Davis and Jorgen Pedersen Rask

SERIAL NO.:
INT'L NO.: PCT/GB00/02620

GROUP ART UNIT:

FILED: Simultaneously
herewith

EXAMINER:

FOR: Toy Building Blocks

ATT'Y DOCKET: UDL-099

Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

Preliminary Amendment

Prior to examining the application filed herewith kindly
amend the application as follows.

In the Drawings:

Please amend Figs. 1, 1a and 5, as shown in red.

In the Abstract of the Disclosure:

Please append to the application the Abstract of the
Disclosure attached hereto.

In the Specification:

Page 1, after the Title, insert the following one-line paragraph centered on the page:

BACKGROUND OF THE INVENTION

Page 1, after the above addition, insert the following one-line paragraph:

1. Field of the Invention

Page 1, insert the following one-line paragraph before line 10:

2. State of the Art

Page 1, after line 15, insert the following one-line paragraph centered on the page:

SUMMARY OF THE INVENTION

Page 11, rewrite the paragraph at line 12, as follows:

The invention will now be further described in a specific embodiment, by way of example only, and with reference to the accompanying drawings.

Page 11, after the above paragraph replacement, insert the following one-line paragraph centered on the page:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 13, before line 1, insert the following one-line paragraph centered on the page:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Page 13, rewrite the paragraph at line 1, as follows:

Referring to the drawings, and initially to Figure 1, the children's toy cube building block (generally designated 1) comprises a tubular moulded plastics body 2 having integrally moulded face panels 2a, 2b, 2c, 2d defining a unitary wall around an internal void region. Face panels 2b and 2d are provided with respective two by two arrays of block-to-block connection formations, panel 2b being provided with all-male cylindrical studs 3 and face panel 2d including a corresponding array of cylindrical recesses 4 (Fig. 2a). The shape, dimension and special configuration of studs 3 and recesses 4 is such that the array of studs 3 on face 2b of first toy building block can matingly engage in releasable push fitting engagement with a complimentary array of recesses for an adjacently connected building block. Similarly, recesses 4 on face panel 2d receive an array of studs on a further adjacently connected building block.

Please rewrite the paragraph at page 13, line 26, as follows:

Referring to Fig. 1, 1a and 2a, a recessed shoulder 14 is provided around each respective open end of the tubular element 2, the recessed shoulder being enlarged at respective corner bosses

5, each of which is provided with a blind bore 6. The upper surface of the shoulders 14 are provided with respective elongate slots 11.

Please rewrite the paragraph at page 14, line 1, as follows:

Referring to Figs. 3a, 3b, 4a and 4b, separate end wall panels 7, 8 of moulded plastics construction are provided with integrally moulded pins 9 shaped, dimensioned and configured to matingly engage in push fit connection with respective blind bores 6 provided in the bosses 5 of the recessed shoulder 14. The longitudinal edges of the separate face panels 7, 8 are provided with downwardly extending integrally moulded tabs 12 shaped, dimensioned and configured to matingly engage in push fit connection with respective slots 11 provided in the recessed shoulder 14. When push fit mated into the respective bores 6 and slots 11, the pins 9 and tabs 12 ensure that the respective end face panel 7, 8 is securely (and effectively permanently) secured to the tubular element 2 and effectively closing the hollow interior of the block.

Please rewrite the paragraph at page 15, line 22, as follows:

A further important feature relates to the arrangement and configuration of the male studs 3 and female sockets 4. As shown most clearly in figure 2b, the studs 3 and sockets 4 on the male and female gender face panels are spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud 3

or socket 4. The diameter of respective studs 3 or sockets 4 is substantially 2x.

In the Claims:

Please rewrite claims 1, 3, 4, 6-13, 15-20, 22, 23, 25-28, 32, 34 and 36, as follows:

1. (rewritten) A toy building block including:

(a) a first pair of respectively transversely extending face panels provided with male gender connection formation means facilitating connection with respective adjacently arranged blocks, the male gender connection formation means for each face panel comprising at least two substantially identical studs; and

(b) a second pair of respectively transversely extending face panels provided with female gender connection formation means facilitating connection with respective adjacently arranged blocks, the female gender connection formation means for each face panel comprising at least two substantially identical sockets, wherein the sockets are shaped and dimensioned to be interference-fit engageable with respective studs on adjacently connecting corresponding blocks, the studs and sockets on the face panels of the block being so spaced and configured to permit connection with opposite gender face panels in a plurality of connection configurations, including a face panel aligned configuration and a face panel overlap configuration.

3. (rewritten) A toy building block according to claim 2, wherein the distance between the extremities of an adjacent two of said at least two substantially identical studs is substantially 2x, and the distance between the extremities of an adjacent two of said at least two substantially identical sockets is substantially 2x.

4. (rewritten) A toy building block according to claim 1, wherein the outer perimeter of the face panels is substantially square such that the overall configuration of the block is cuboid.

6. (rewritten) A toy building block according to claim 1, including face panels moulded of different coloured plastics.

7. (rewritten) A toy building block according to claim 1, wherein non-opposed face panels are of substantially the same face area.

8. (rewritten) A toy building block according to claim 1, wherein opposed face panels are of substantially the same face area.

9. (rewritten) A toy building block according to claim 1, wherein at least one of the faces of the block is without connection formation means.

10. (rewritten) A toy building block according to claim 1, wherein a pair of opposed face panels are without connection formation means.

11. (rewritten) A toy building block according to claim 9, wherein one or more face panels without connection means are arranged to carry an indicia, design, character or other graphic representation.

12. (rewritten) A toy building block according to claim 1, wherein opposed faces of the block are provided with connection formations of opposed gender.

13. (rewritten) A toy building block according to claim 1, wherein the connection formation means for a respective face comprises an array of formations arranged to mate with a complementary array provided on an adjacently connecting block.

15. (rewritten) A toy building block according to any 1, wherein one of the depth dimension and the height dimension of the formations is less than one of a width dimension and a diameter dimension of the respective formation.

16. (rewritten) A toy building block according to claim 1, wherein the toy building block is substantially hollow.

17. (rewritten) A toy building block according to claim 1, wherein the face panels are of moulded plastics material, the connection formation means being integrally moulded with the respective faces.

18. (rewritten) A toy building block according to claim 1, wherein the block comprises a moulded plastics building block comprising a moulded shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween, and closure means to close a hollow interior of the block, the closure means including one or more wall panel elements to be connected to the shell element.

19. (rewritten) A toy building construction kit comprising a plurality of building blocks according to claim 1.

20. (rewritten) A method of manufacturing a toy building block, the method comprising:

i) providing a moulded plastics shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween; and

ii) assembling a separate wall panel element with the walled shell element to close an interior of the block.

22. (rewritten) A method according to claim 21, wherein:

the moulded shell element is formed having at least one of:

i) male connection formation means on a first face panel and female connection means on a second face panel, and

ii) connection formation means on opposed face panels.

23. (rewritten) A method according to claim 20, wherein the shell element and the separate end wall panels are provided with complementary engageable securing formations permitting the end face panel to be securely effectively permanently fixed across the shell element.

25. (rewritten) A method according to claim 23, wherein the complementary engaging securing formations are provided at the periphery of the face panel element and the opening of the shell element.

26. (rewritten) A method according to claim 23, wherein the complementary engaging securing formations comprise at least one of

i) pins arranged to be received in complementary dimensioned bores in a push fit engagement, and

ii) tongue and groove like mating elements extending along one or more edges of the face panel element and shell element.

27. (rewritten) A method according to claim 20, wherein the shell element comprises a substantially tubular element having opposed open ends, each of which is closed by a respective separate end wall panel element.

28. (rewritten) An assemblage comprising a plurality of adjacently

connected blocks according to claim 1, respective blocks including respective image elements having commonly coded image edge portions which permit image elements to be positioned in an edge adjacent relationship in a plurality of configurations in which the commonly coded image edge portions of adjacent elements are matched substantially to one another.

32. (rewritten) An assemblage according to claim 30, wherein a respective image element comprises upper and lower edges and two side edges such that the image element is substantially rectangular or square, the image elements being provided with first and second opposed edges of a first common image coding and third and fourth edges of a second common image coding.

34. (rewritten) An assemblage according to claim 30, wherein the coded image element edge portions are colour coded by means of coloured edge zones.

36. (rewritten) A toy building construction kit or set comprising:

i) a plurality of a toy building blocks including face panels provided with connection formation means facilitating connection with an adjacently arranged blocks; and,

ii) a plurality of image elements for mounting on substantially planar faces of respective blocks, the image elements having commonly coded image edge portions permitting image element carrying blocks to be positioned in an edge adjacent relationship

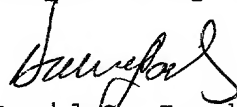
in a plurality of configurations in which the image edge portions of adjacent elements are matched substantially to one another.

REMARKS

Headings and subheadings have been added in accord with standard U.S. practice. An Abstract of the Disclosure has been provided on a separate sheet, as required by U.S. practice. Claims have been amended to remove multiple dependencies and otherwise place the claims in acceptable form for allowance.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,



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Attorney for Applicant(s)

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January 7, 2002

MARKED-UP PARAGRAPHS AND CLAIMS

In the Specification:

Page 11, rewrite the paragraph at line 12, as follows:

The invention will now be further described in a specific embodiment, by way of example only, and with reference to the accompanying drawings[, in which:]_.

Page 13, rewrite the paragraph at line 1, as follows:

Referring to the drawings, and initially to Figure 1, the children's toy cube building block (generally designated 1) comprises a tubular moulded plastics body 2 having integrally moulded face panels 2a, 2b, 2c, 2d defining a unitary wall around an internal void region. Face panels 2b and 2d are provided with respective two by two arrays of block-to-block connection formations, panel 2b being provided with all-male cylindrical [stud] studs 3 and face panel 2d including a corresponding array of cylindrical recesses 4 (Fig. 2a). The shape, dimension and special configuration of studs 3 and recesses 4 is such that the array of studs 3 on face 2b of first toy building block can matingly engage in releasable push fitting engagement with a complimentary array of recesses for an adjacently connected building block. Similarly, recesses 4 on face panel 2d receive an array of studs on a further adjacently connected building block.

Please rewrite the paragraph at page 13, line 26, as follows:

Referring to Fig. 1, 1a and 2a, a [A] recessed shoulder [4]
14 is provided around each respective open end of the tubular
element 2, the recessed shoulder being enlarged at respective
corner bosses 5, each of which is provided with a blind bore 6.
The upper surface of the shoulders [4] 14 are provided with
respective elongate slots 11.

Please rewrite the paragraph at page 14, line 1, as follows:

Referring to Figs. 3a, 3b, 4a and 4b, separate [Separate] end
wall panels 7, 8 of moulded plastics construction are provided
with integrally moulded pins 9 shaped, dimensioned and configured
to matingly engage in push fit connection with respective blind
bores 6 provided in the bosses 5 of the recessed shoulder [4] 14.
The longitudinal edges of the separate face panels 7, 8 are
provided with downwardly extending integrally moulded tabs 12
shaped, dimensioned and configured to matingly engage in push fit
connection with respective slots 11 provided in the recessed
shoulder [4] 14. When push fit mated into the respective bores 6
and slots 11, the pins 9 and tabs 12 ensure that the respective
end face panel 7, 8 is securely (and effectively permanently)
secured to the tubular element 2 and effectively closing the
hollow interior of the block.

Please rewrite the paragraph at page 15, line 22, as follows:

A further important feature relates to the arrangement and
configuration of the male studs 3 and female sockets 4. As shown

most clearly in figure 2b, [The] the studs 3 and sockets 4 on the male and female gender face panels are spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud 3 or socket 4. The diameter of respective studs 3 or sockets 4 is substantially $2x$.

In the Claims:

1. (rewritten) [a] A toy building block including:

(a) a first pair of respectively transversely extending face panels provided with male gender connection formation means facilitating connection with respective adjacently arranged blocks, the male gender connection formation means for each face panel comprising at least two substantially identical studs; and

(b) a second pair of respectively transversely extending face panels provided with female gender connection formation means facilitating connection with respective adjacently arranged blocks, the female gender connection formation means for each face panel comprising at least two substantially identical sockets[;], wherein[,] the sockets are shaped and dimensioned to be [push-fit/]interference-fit engageable with respective studs on adjacently connecting corresponding blocks, the studs and sockets on the face panels of the block being so spaced and configured to permit connection with opposite gender face panels in a plurality of connection configurations, including a face panel aligned configuration and a face panel overlap configuration.

3. (rewritten) A toy building block according to claim 2, wherein the distance between the extremities of [a stud or socket] an adjacent two of said at least two substantially identical studs [(corresponding to the diameter for circular perimeter formations)] is substantially 2x, and the distance between the extremities of an adjacent two of said at least two substantially identical sockets is substantially 2x.

4. (rewritten) A toy building block according to [any preceding] claim 1, wherein the outer perimeter of the face panels is substantially square such that the overall configuration of the block is cuboid.

6. (rewritten) A toy building block according to [any preceding] claim 1, including face panels moulded of different coloured plastics.

7. (rewritten) A toy building block according to [any preceding] claim 1, wherein non-opposed face panels are of substantially the same face area.

8. (rewritten) A toy building block according to [any preceding] claim 1, wherein opposed face panels are of substantially the same face area.

9. (rewritten) A toy building block according to [any preceding] claim 1, wherein at least one of the faces of the block is without connection formation means.

10. (rewritten) A toy building block according to [any preceding] claim 1, wherein a pair of opposed face panels are without connection formation means.

11. (rewritten) A toy building block according to claim 9 [or 10], wherein one or more face panels without connection means are arranged to carry an indicia, design, character or other graphic representation.

12. (rewritten) A toy building block according to [any preceding] claim 1, wherein opposed faces of the block are provided with connection formations of opposed gender.

13. (rewritten) A toy building block according to [any preceding] claim 1, wherein the connection formation means for a respective face comprises an array of formations arranged to mate with a complementary array provided on an adjacently connecting block.

15. (rewritten) A toy building block according to any [preceding claim] 1, wherein [the depth/height] one of the depth dimension and the height dimension of the formations is less than one of a [the] width dimension [(e.g. the diameter)] and a diameter dimension of the respective formation.

16. (rewritten) A toy building block according to [any preceding] claim 1, wherein the toy building block is substantially hollow.

17. (rewritten) A toy building block according to [any preceding] claim 1, wherein the face panels are of moulded plastics material, the connection formation means being integrally moulded with the respective faces.

18. (rewritten) A toy building block according to [any preceding] claim 1, wherein the block comprises a moulded plastics building block comprising a moulded shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween, and closure means to close a hollow interior of the block, the closure means including one or more wall panel elements to be connected to the shell element.

19. (rewritten) A toy building construction [system or] kit comprising a plurality of building blocks according to [any preceding] claim 1.

20. (rewritten) A method of manufacturing a toy building block, the method comprising [assembling]:

i) providing a moulded plastics shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween; and[,]

ii) assembling a separate wall panel element [connecting] with the walled shell element to close an interior of the block.

22. (rewritten) A method according to claim 21, wherein:

[i)] the moulded shell element is formed having at least one of:

i) male connection formation means on a first face panel and female connection means on a second face panel, and [; and/or]

ii) [the moulded shell element is formed having] connection formation means on opposed face panels.

23. (rewritten) A method according to [any of claims 20 to 22] claim 20, wherein the shell element and the separate end wall panels are provided with complementary engageable securing formations permitting the end face panel to be securely effectively permanently fixed across the shell element.

25. (rewritten) A method according to claim 23 [or claim 24], wherein the complementary engaging securing formations are provided at the periphery of the face panel element and the opening of the shell element.

26. (rewritten) A method according to [any of claims 23 to 25] claim 23, wherein the complementary engaging securing formations comprise at least one of[:]

i) pins arranged to be received in complementary dimensioned bores in a push fit engagement[; and/or], and

ii) tongue and groove like mating elements [(such as a tab receivable in a slot)] extending along one or more edges of the face panel element and shell element.

27. (rewritten) A method according to [any of claims 20 to 26] claim 20, wherein the shell element comprises a substantially tubular element having opposed open ends, each of which is closed by a respective separate end wall panel element.

28. (rewritten) An assemblage comprising a plurality of adjacently connected blocks according to [any of claims 1 to 19] claim 1, respective blocks including respective image elements having commonly coded image edge portions which permit image elements to be positioned in an edge adjacent relationship in a plurality of configurations in which the commonly coded image edge portions of adjacent elements are matched substantially to one another.

32. (rewritten) An assemblage according to [any of claims 30 or 31] claim 30, wherein a respective image element comprises upper and lower edges and two side edges such that the image element is substantially rectangular or square, the image elements being provided with first and second opposed edges of a first common

image coding and third and fourth edges of a second common image coding.

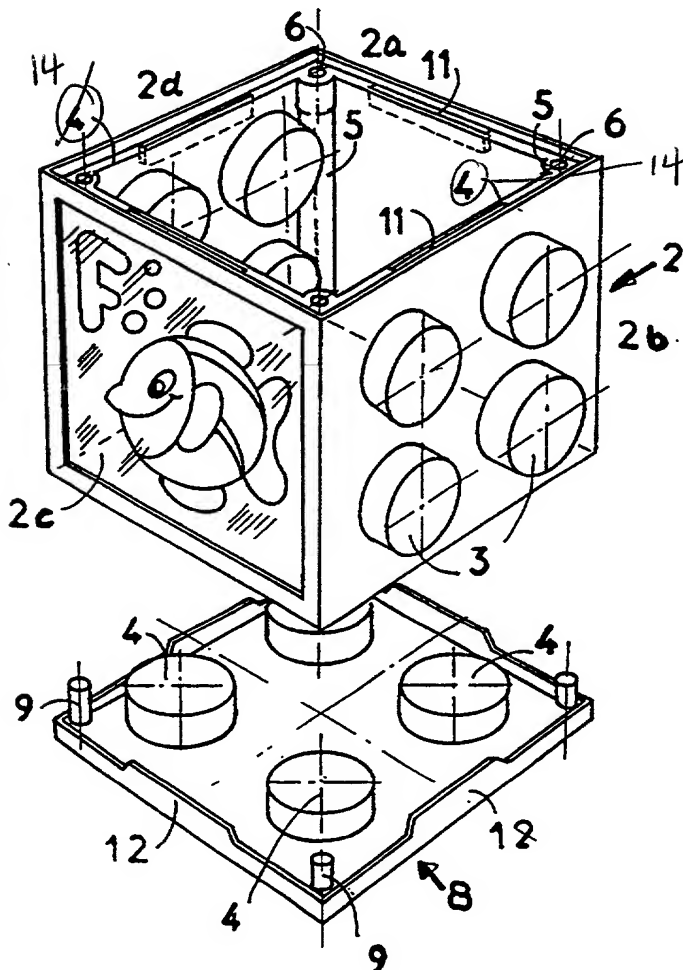
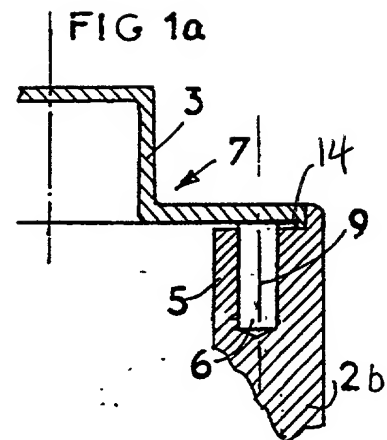
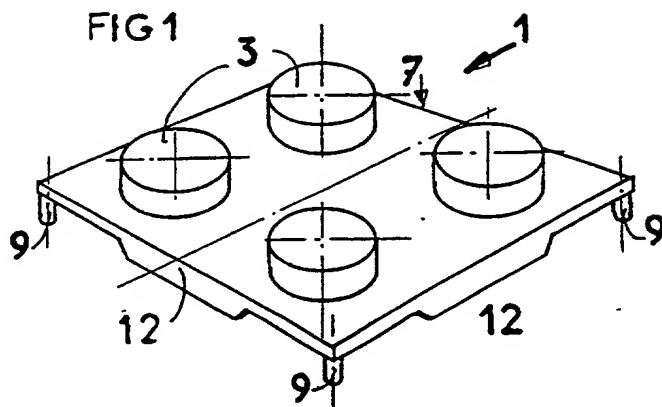
34. (rewritten) An assemblage according to [any of claims 30 to 33] claim 30, wherein the coded image element edge portions are colour coded by means of coloured edge zones.

36. (rewritten) A toy building construction kit or set comprising:

i) a plurality of a toy building blocks including face panels [(preferably substantially perpendicular face panels)] provided with connection formation means facilitating connection with an adjacently arranged blocks; and,

ii) a plurality of image elements for mounting on substantially planar faces of respective blocks, the image elements having commonly coded image edge portions permitting image element carrying blocks to be positioned in an edge adjacent relationship in a plurality of configurations in which the image edge portions of adjacent elements are matched substantially to one another.

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FIG 3a

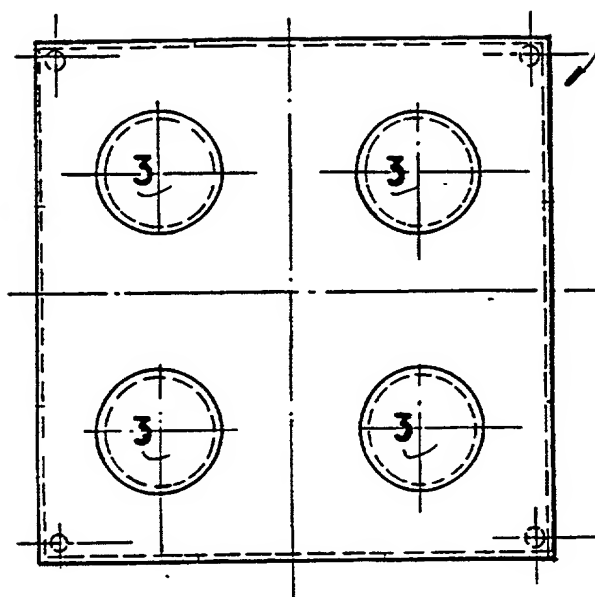


FIG 3b

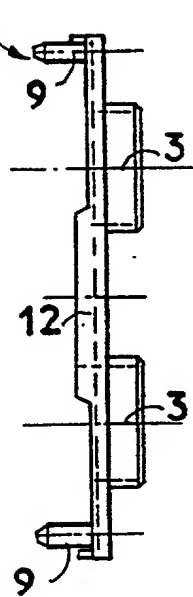


FIG 5

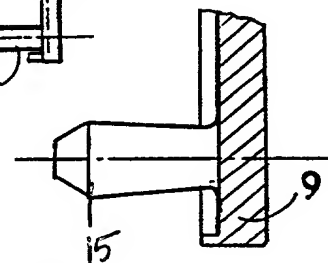


FIG 4a

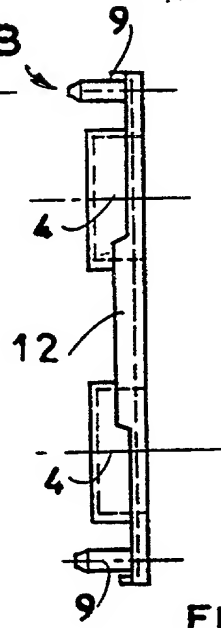
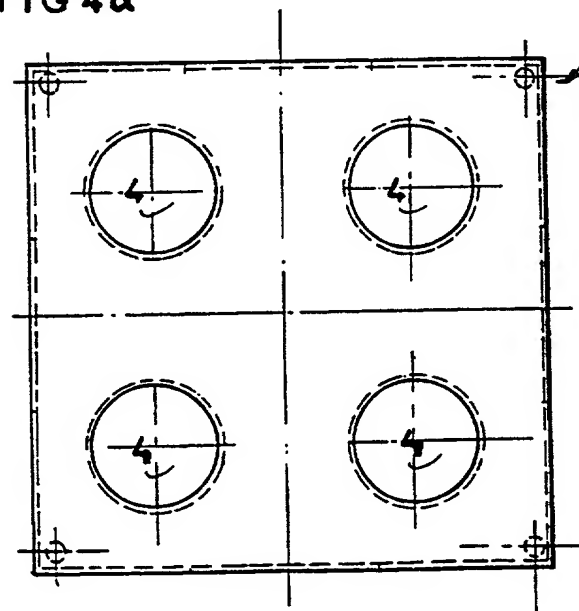


FIG 4b

-1-

Toy Building Blocks

5

The present invention relates to toy building blocks. Particularly to building blocks suitable for connection to one another.

10 The educational value of children's building block systems is well known and a number of systems have been proposed and/or reached commercialisation. Known building block systems are disclosed in, for example, GB-A-231502, GB-A-2118447, GB-A-1350621, GB-A-1376301, US-A-5683283 and US-A-4602908.

An improved building block and system has now been devised.

20 According to a first aspect, the invention provides a toy building block including:

25 (a) a first pair of respectively transversely extending face panels provided with male gender connection formation means facilitating connection with respective adjacently arranged blocks, the male gender connection formation means for each face comprising at least two substantially identical studs;

30

(b) a second pair of respectively transversely

-2-

extending face panels provided with female gender connection formation means facilitating connection with respective adjacently arranged blocks, the female gender connection formation means for each face panel comprising at least two substantially identical sockets;

Wherein, the sockets are shaped and dimensioned to be push-fit/interference-fit engageable with respective studs on adjacently connecting corresponding blocks, the studs and sockets on the face panels of the block being so spaced and configured to permit connection with opposite gender face panels in a plurality of connection configurations, including a face panel aligned configuration and a face panel overlap configuration.

The arrangement of transverse/substantially perpendicular face panels provided with connection formation means facilitating connection with an adjacently arranged blocks enables blocks to be connected side by side as well as one upon another. This enables a highly versatile building block system to be achieved.

The studs and sockets on the male and female gender face panels are preferably spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud or socket. Desirably the spacing between adjacent studs or sockets on a respective face panel is substantially $2x$. Beneficially, the distance

-3-

between the extremities of a stud or socket (corresponding to the diameter for circular perimeter formations) is substantially 2x. The outer perimeter of the face panels is preferably square such that the overall configuration of the block is cuboid. The respective studs and sockets on the male and female gender face panels are preferably arranged in 2 x 2 arrays.

The block according to the invention permits a female gender face panel of a connecting corresponding block to be connected to the complementary male gender face panel of an object block in a plurality of configurations in which the connection may be facilitated by engagement of one, two or four pairs of engaging opposed gender formations. In the embodiment defined, the four formation engagement would give a face panel to face panel match up (face panel aligned configuration); one or two pairs of engaging formations give a face panel overlap configuration. Where one pair only of formations are used to make the connection, the corresponding face panels of adjacent blocks may be inclined at angles to one another. Where circular perimeter formations are utilised, the one pair connection configuration enables the connected blocks to be rotated relative to one another about the connected formations.

Desirably the block comprises two sets of opposed face panels provided with connection formation means.

Desirably non-opposed face panels (and also preferably opposed face panels) are of substantially the same face

-4-

area.

Desirably at least one of the faces of the block is without connection formation means. Preferably two face panels of the block (most preferably opposed face panels) are without connection formation means. It is preferred that one or more face panels without connection means are arranged to carry an indicia, design, character or other graphic representation. This enables for example a large 'composite' picture to be built up from an assembly of blocks, or words to be formed using connected blocks each carrying a respective letter character.

Desirably opposed faces of the block are provided with connection formations of opposed gender.

The cube shaped block provides the 'basic' constructional element of a children's building block system. Other shaped blocks are envisaged as comprising the system including for example triangular face panelled blocks and rectangular face panelled blocks

According to a further aspect the invention therefore provides a toy building construction system or kit comprising a plurality of building blocks according to the first aspect of the invention.

According to a further aspect, the invention provides a building block comprising a male gender face panel having an array of rows and columns of stud formations and a female gender face panel having an array of socket

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formations corresponding to the male array of studs, the studs and sockets on the male and female gender face panels are preferably spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud or socket.

Beneficially, the distance between the extremities of a stud or socket (corresponding to the diameter for circular perimeter formations) is substantially $2x$.

The connection formation means for a respective face therefore preferably comprises an array of formations arranged to mate with a complementary array provided on an adjacently connecting block. The array preferably has a perimeter spaced inwardly from the edge of a respective face. The array preferably comprises formations of all male studs or all female recesses. Desirably, the formations comprising the array have an axis and are most preferably substantially circular in cross section along a plane substantially parallel to the respective face. Beneficially, the depth of the formations is less than the width dimension (e.g. the diameter) of the respective formation. The spacing between the formations in the array is preferably greater than the distance between the formations and their respectively closest edge of a respective face. Desirably an array comprises four formations arranged in a two by two matrix.

It is preferred that the toy block is substantially hollow. Preferably the block comprises a plastics

-6-

material, the block comprising, preferably moulded plastics material, the connection formation means preferably being integrally moulded with the respective face.

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Desirably the block comprises a moulded plastics building block comprising a moulded shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween, and closure means to close a hollow interior of the block, the closure means including one or more wall panel elements to be connected to the shell element.

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Accordingly, a further aspect of the invention provides a method of manufacturing a toy building block, the method comprising assembling:

i) a moulded plastics shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween; and,

ii) a separate wall panel element connecting with the walled shell element to close an interior of the block.

Forming the block in this way enables the shell element and shell closing wall panel element to be moulded separately permitting construction of a block having

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male/female connection elements on perpendicular face panels. This is difficult to achieve with conventional 'one shot' block moulding techniques.

5 The moulding preferably forms the connection formation means integrally with the respective faces.

10 Desirably the moulded shell element is formed having male connection formation means on a first face panel and female connection means on a second face panel. It is preferred that the moulded shell element is formed having connection formation means on opposed face panels, preferably male connection means on a first face panel and female connection means on the opposed face panel. The
15 moulded shell element is preferably formed as a tube having orthogonal wall panels.

20 Desirably the shell element and the separate end face panel are provided with complementary engageable securing formations permitting the end face panel to be securely and preferably effectively permanently fixed across the opening of the shell element. Alternatively or
25 additionally a bonding material (such as a curable bonding material) may be applied to the shell element and/or the end face panel element and/or the complementary engageable securing formations to facilitate fixing.

30 The complementary engaging securing formations are preferably configured such that either a push fit engagement or a snap fit engagement is provided. desirably, the complementary engaging securing formations

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are provided at the periphery of the wall panel element and the opening of the shell element.

5 In a preferred embodiment the complementary engaging securing formations preferably comprise pins arranged to be received in complementary dimensioned bores in a push fit engagement. Additionally or alternatively it is preferred that the complementary engaging securing formations comprise tongue and groove like mating elements (such as a tab receivable in a slot) extending along one or more edges of the face panel element and shell element. It is preferred that the tongue and groove like engaging formations are push fit engageable with one another.

10 In a preferred embodiment, the shell element comprises a substantially tubular element having opposed open ends, each of which is closed by a respective separate end wall panel element. The tubular element preferably has four face panels defining a cube shape when the separate end wall panel elements are fixed in position.

20 The separate end wall panel elements preferably include connection formation means facilitating connection with an adjacently arranged blocks. It will be readily apparent, that the block and method of construction provided by the invention permit the shell element to be combined with various configurations of connection formation means (male female or none) enabling a maximum versatility for manufacture using basic components. Additionally face panels of various colours may be fixed to shell elements of different colours to enhance the visual stimulatory

-9-

effect. This is perceived to be a major advantage of the invention over prior art blocks.

According to a further aspect, the invention provides an
5 assemblage comprising a plurality of image elements having
commonly coded image edge portions which permit image
elements to be positioned in an edge adjacent relationship
in a plurality of configurations in which the commonly
coded image edge portions of adjacent elements are matched
substantially to one another.
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Desirably, the image element comprises upper and lower
edges and two side edges such that the image element is
preferably rectangular or square. Desirably the upper
edge is coded to match with the lower edge and the side
edges coded to match one another.
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It is preferred that the image elements are provided with
first and second opposed edges of a first common image
coding and third and fourth edges of a second common image
coding.
20

Beneficially, the coded image element edge portions are
coded imagewise such that the coding of the edge portions
is effected by portions of a general image or scene
depicted upon relevant image elements.
25

Desirably coded image element edge portions comprise a
plurality of differently coded zones along respective edge
portions.
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The coded image element edge portions are preferably coded by means of colour (preferably coloured edge zones).

In a preferred embodiment the image element includes commonly coloured upper and lower edge zones and commonly coloured opposed side edge zones.

The coloured edge zones preferably comprise a backing to a primary image, character or other emblem presented on the element.

The image element is beneficially arranged to be mounted on a face panel of a toy building block, preferably a toy building block including connection formation means facilitating connection with an adjacently arranged blocks. Most preferably, the image element is arranged to be mounted on a face panel of a toy building block in accordance with the first aspect of the invention.

According to a further aspect, the invention provides a toy building construction kit or set comprising:

a plurality of a toy building blocks including face panels (preferably substantially perpendicular face panels) provided with connection formation means facilitating connection with an adjacently arranged blocks; and,

a plurality of image elements for mounting on substantially planar faces of respective blocks, the image elements having commonly coded image edge

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portions permitting image element carrying blocks to be positioned in an edge adjacent relationship in a plurality of configurations in which the image edge portions of adjacent elements are matched substantially to one another.

In one embodiment, the image elements are adhesive backed permitting a user to apply a desired set of image elements to a set of blocks. Alternatively, the image elements may be printed or moulded onto the relevant face panel.

The invention will now be further described in specific embodiments by way of example only and with reference to the accompanying drawings, in which:

Figure 1 is a perspective exploded view of a first embodiment of toy building block according to the invention;

Figure 1a is a scrap sectional view of the face panel securing engagement connection with the shell element;

Figure 2a is a schematic plan elevation of a toy building block according to the invention having an end panel element not in position;

Figure 2b is a schematic side view of the building block having end panel elements not in position;

Figure 2c is a schematic sectional view of the securing bore of the shell element;

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Figure 3a is a schematic plan view of a first end panel element (moulded with an integral array of male studs);

Figure 3b is a schematic side view of the end panel element of Figure 3a;

Figure 4a is a schematic plan view of a second end panel element (moulded with an integral array of female recesses);

Figure 4b is a schematic side view of the end panel element of Figure 4a;

Figure 5 is a schematic part sectional view of a securing fixing pin carried by the face panel elements;

Figure 6 is an exploded perspective view of an alternative embodiment of building block according to the invention;

Figure 7 is a schematic view of a building block carrying an exemplary image element for use in creating an assemblage according to the invention;

Figure 8 is a schematic view of an array of connected blocks (including the block of figure 7) in an assemblage according to the invention; and,

Figure 9 is a schematic view of the array of blocks in figure 8 connected in an alternative assemblage configuration.

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Referring to the drawings, and initially to Figure 1, the children's toy cube building block (generally designated 1) comprises a tubular moulded plastics body 2 having integrally moulded face panels 2a, 2b, 2c, 2d defining a unitary wall around an internal void region. Face panels 2b and 2d are provided with respective two by two arrays of block-to-block connection formations, panel 2b being provided with all-male cylindrical stud studs 3 and face panel 2d including a corresponding array of cylindrical recesses 4. The shape, dimension and spacial configuration of studs 3 and recesses 4 is such that the array of studs 3 on face 2b of first toy building block can matingly engage in releasable push fitting engagement with a complimentary array of recesses for an adjacently connected building block. Similarly, recesses 4 on face panel 2d receive an array of studs on a further adjacently connected building block.

An important feature of the invention is that, for the moulded, substantially hollow, tubular element 2, the array of male studs 3 is provided on an opposed face to the array of female recesses 4. This enables the tubular element to be moulded using relatively standard plastics injection moulding techniques.

A recessed shoulder 4 is provided around each respective open end of the tubular element 2, the recessed shoulder being enlarged at respective corner bosses 5, each of which is provided with a blind bore 6. The upper surface of the shoulders 4 are provided with respective elongate slots 11.

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Separate end wall panels 7, 8 of moulded plastics construction are provided with integrally moulded pins 9 shaped, dimensioned and configured to matingly engage in push fit connection with respective blind bores 6 provided in the bosses 5 of the recessed shoulder 4. The longitudinal edges of the separate face panels 7, 8 are provided with downwardly extending integrally moulded tabs 12 shaped, dimensioned and configured to matingly engage in push fit connection with respective slots 11 provided in the recessed shoulder 4. When push fit mated into the respective bores 6 and slots 11, the pins 9 and tabs 12 ensure that the respective end face panel 7, 8 is securely (and effectively permanently) secured to the tubular element 2 and effectively closing the hollow interior of the block.

As shown in figure 5, pins 9 taper outwardly from a root connecting to the panel element 7,8, to a head 15 chamfered to ease insertion into respective bores 6. The maximum diameter of the head of pin 9 is greater than the root diameter; such an outwardly tapering pin enhances the interference fit of pins 9 on bores 6.

The face panel fixing arrangement including the corner pins 9 and elongate slot and tab mating provides particularly good and effectively permanent connection between the shell element and the end face panels. The pins 9 and bores 6 ensure good connection force at the corners; the slots 11 and tabs 12 ensure good connection along the end face panel edges. The pull apart force required to separate the end panel faces from the shell

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element is significantly greater than the force required to separate adjacently connected blocks by disengaging a male stud array 3 from a female recess array 4.

5 An important feature of the invention is the flexibility of the arrangement, in that respective end face panels 7, 8 may be provided with an array of male studs 3 or female recesses 4. This enables a "core" module comprising the tubular element 2 to be connected with end panels 7, 8 as
10 required enabling a variety of different building block configurations and designs to be manufactured from a number of "core" elements. For example, blocks having from three male stud arrays and one female recess array to one male stud array and three female recess arrays are
15 possible. It will also be appreciated that end elements 7, 8 could, additionally, comprise planar face elements (not including any male or female formations 3, 4). Additionally, the flexibility of the design enables end face panels 7, 8 of different colours, textures or other
20 variables to be mated with the tubular element 2.

A further important feature relates to the arrangement and configuration of the male studs 3 and female sockets 4. As shown most clearly in figure 2b The studs 3 and sockets
25 4 on the male and female gender face panels are spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud 3 or socket 4. The diameter of respective studs 3 or sockets 4 is
30 substantially $2x$.

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5 The block according to the invention permits a female gender face panel of a connecting corresponding block to be connected to the complementary male gender face panel of an object block in a plurality of configurations in which the connection may be facilitated by engagement of one, two or four pairs of engaging opposed gender formations. In the embodiments shown, engagement of studs 3 of an adjacent identical block with all four sockets 4a,4b,4c,4d would give a face panel to face panel match up (face panel aligned configuration); engagement of the identical block with two sockets (for example 4a and 4b only) would give a face panel overlap configuration for the connected blocks. Where an adjacent block is connected by a single stud only engaging, for example socket 4a , the corresponding face panels of adjacent blocks may be inclined at angles to one another, and furthermore the connected blocks can be rotated relative to one another about the connected stud 3 and socket 4a. The system is therefor extremely versatile in the constructional arrangements permitted and therefore provides an enhanced educational system.

25 Referring now to Figure 6, there is shown an alternative embodiment of toy building block 101 according to the invention in which the tubular element 102 again includes respective arrays of male studs 103 and female recesses 104 provided on opposed faces.

30 The end face panels 107, 108 which connect with tubular element 102 (and thereby close the open ends) are provided at opposed edges with collar studs 109 which are arranged

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to slide over respective ramp formations 106 (provided on the internal faces of panels 102d, 102b), and snap back to a "normal" position abutting a rear shoulder of ramp 106. The abutment of collars 109 with the rear shoulders of respective ramp formations 106 substantially inhibits disassembly of the respective end face panels 107, 108 from the tubular element 102.

One or both of the planar face panels (for example panels 2a, 2c in figure 1) are typically provided with an image or character element. When upper or lower or side by side adjacent blocks are connected a character or image wall depicting a series of images or characters can be built up. Letter characters can be used to build up words and sentences and thereby aid in reading development of children.

Alternatively, adjacent image elements can be used to build up a composite image (in a similar manner to assembling a jigsaw puzzle). In a preferred embodiment the image elements in a set of toy construction blocks have commonly coded image edge portions permitting the images on the blocks to be assembled in a variety of different configurations whilst maintaining sense of the overall image. Such an arrangement is shown in figures 7 to 9.

The block shown in figure 7 has upper and lower fringe edge) zones of orange colour. All other blocks in the assemblages of figures 8 and 9 include corresponding upper and lower fringe zones of orange colour. This permits any

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of the blocks in the array to be connected with any other block in an upper or lower connecting position and the orange colour fringes will match up. The block shown in figure 7 has side edge connecting bands 22, 23 extending across the image and providing a backing scene to the primary images of the old man 24, bird 25 and tree 26. The side edge connecting band 22 is yellow in colour; the side edge connecting band 23 is green in colour. All other blocks in the assemblage arrays of figures 8 and 9 include corresponding yellow and green colour edge connecting bands. This permits any of the blocks in the array to be connected with any other block in a side edge to side edge connecting position and the yellow and green colour bands will match up.

This system has a benefit in that it is extremely easy for a child to achieve a progress result, and also begins to teach colour matching.

The use of a 'jigsaw' wall built up from image carrying elements using blocks having block to block connection formations on perpendicular faces enables a solid and sturdy image construction to be conveniently achieved.

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claims:

1. a toy building block including:

5 (a) a first pair of respectively transversely extending face panels provided with male gender connection formation means facilitating connection with respective adjacently arranged blocks, the male gender connection formation means for each face panel comprising at least
10 two substantially identical studs;

15 (b) a second pair of respectively transversely extending face panels provided with female gender connection formation means facilitating connection with respective adjacently arranged blocks, the female gender connection formation means for each face panel comprising at least
20 two substantially identical sockets;

25 wherein, the sockets are shaped and dimensioned to be push-fit/interference-fit engageable with respective studs on adjacently connecting corresponding blocks, the studs and sockets on the face panels of the block being so spaced and configured to permit connection
30 with opposite gender face panels in a plurality of connection configurations, including a face panel aligned configuration and a face panel overlap configuration.

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2. A toy building block according to claim 1, wherein the studs and sockets on the male and female gender face panels are spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud or socket.
3. A toy building block according to claim 2, wherein the distance between the extremities of a stud or socket (corresponding to the diameter for circular perimeter formations) is substantially $2x$.
4. A toy building block according to any preceding claim, wherein the outer perimeter of the face panels is substantially square such that the overall configuration of the block is cuboid.
5. A toy building block according to claim 4, wherein the respective studs and sockets on the male and female gender face panels are arranged in 2×2 arrays.
6. A toy building block according to any preceding claim including face panels moulded of different coloured plastics.
7. A toy building block according to any preceding claim, wherein non-opposed face panels are of substantially the same face area.
8. A toy building block according to any preceding claim

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wherein opposed face panels are of substantially the same face area.

- 5 9. A toy building block according to any preceding claim, wherein at least one of the faces of the block is without connection formation means.
- 10 10. A toy building block according to any preceding claim wherein a pair of opposed face panels are without connection formation means.
- 15 11. A toy building block according to claim 9 or 10, wherein one or more face panels without connection means are arranged to carry an indicia, design, character or other graphic representation.
- 20 12. A toy building block according to any preceding claim, wherein opposed faces of the block are provided with connection formations of opposed gender.
- 25 13. A toy building block according to any preceding claim, wherein the connection formation means for a respective face comprises an array of formations arranged to mate with a complementary array provided on an adjacently connecting block.
- 30 14. A toy building block according to claim 13, wherein each respective array comprises formations of all male studs or all female recesses.

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15. A toy building block according to any preceding claim, wherein the depth/height of the formations is less than the width dimension (e.g. the diameter) of the respective formation.
16. A toy building block according to any preceding claim, wherein toy block is substantially hollow.
17. A toy building block according to any preceding claim, wherein the face panels are of moulded plastics material the connection formation means being integrally moulded with the respective faces.
18. A toy building block according to any preceding claim, wherein the block comprises a moulded plastics building block comprising a moulded shell element including wall panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween, and closure means to close a hollow interior of the block, the closure means including one or more wall panel elements to be connected to the shell element.
19. A toy building construction system or kit comprising a plurality of building blocks according to any preceding claim.
20. A method of manufacturing a toy building block, the method comprising assembling:
- i) a moulded plastics shell element including wall

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panels moulded to be configured rigidly extending transversely to one another in fixed relationship with a defined angle therebetween; and,

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ii) a separate wall panel element connecting with the walled shell element to close an interior of the block.

21. A method according to claim 20, wherein the shell element is formed having connection formation means formed integrally with the respective face panels.

22. A method according to claim 21, wherein:

i) the moulded shell element is formed having male connection formation means on a first face panel and female connection means on a second face panel; and/or

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ii) the moulded shell element is formed having connection formation means on opposed face panels.

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23. A method according to any of claims 20 to 22, wherein the shell element and the separate end wall panels are provided with complementary engageable securing formations permitting the end face panel to be securely effectively permanently fixed across the shell element.

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24. A method according to claim 23, wherein the complementary engaging securing formations are preferably configured such that either a push fit engagement or a snap fit engagement is provided.
25. A method according to claim 23 or claim 24, wherein the complementary engaging securing formations are provided at the periphery of the face panel element and the opening of the shell element.
26. A method according to any of claims 23 to 25, wherein the complementary engaging securing formations comprise:
- i) pins arranged to be received in complementary dimensioned bores in a push fit engagement; and/or
 - ii) tongue and groove like mating elements (such as a tab receivable in a slot) extending along one or more edges of the face panel element and shell element.
27. A method according to any of claims 20 to 26, wherein the shell element comprises a substantially tubular element having opposed open ends, each of which is closed by a respective separate end wall panel element.
28. An assemblage comprising a plurality of adjacently

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connected blocks according to any of claims 1 to 19, respective blocks including respective image elements having commonly coded image edge portions which permit image elements to be positioned in an edge adjacent relationship in a plurality of configurations in which the commonly coded image edge portions of adjacent elements are matched substantially to one another.

29. A building block comprising a male gender face panel having an array of rows and columns of stud formations and a female gender face panel having an array of socket formations corresponding to the male array of studs, the studs and sockets on the male and female gender face panels are spaced from one another by a distance of substantially $2x$, where x is the distance between the edge of the panel and the nearest extremity of a respective stud or socket.
30. An assemblage comprising a plurality of image elements having commonly coded image edge portions which permit image elements to be positioned in an edge adjacent relationship in a plurality of configurations in which the commonly coded image edge portions of adjacent elements are matched substantially to one another.
31. An assemblage according to claim 30, wherein a respective image element comprises upper and lower edges and two side edges such that the image element is substantially rectangular or square, the upper

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edge being coded to match with the lower edge and the side edges coded to match one another.

- 5 32. An assemblage according to any of claims 30 or 31, wherein a respective image element comprises upper and lower edges and two side edges such that the image element is substantially rectangular or square, the image elements being provided with first and second opposed edges of a first common image coding and third and fourth edges of a second common image coding.
33. An assemblage according to claim 32, wherein the coded image element edge portions are coded imagewise such that the coding of the edge portions is effected by portions of a general image or scene depicted upon relevant image elements.
- 20 34. An assemblage according to any of claims 30 to 33, wherein the coded image element edge portions are colour coded by means of coloured edge zones.
- 25 35. An assemblage according to claim 34, wherein the coloured edge zones comprise a backing to a primary image, character or other emblem depicted on the element.
- 30 36. A toy building construction kit or set comprising:
- i) a plurality of a toy building blocks including face panels (preferably substantially

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perpendicular face panels) provided with connection formation means facilitating connection with an adjacently arranged blocks; and,

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- ii) a plurality of image elements for mounting on substantially planar faces of respective blocks, the image elements having commonly coded image edge portions permitting image element carrying blocks to be positioned in an edge adjacent relationship in a plurality of configurations in which the image edge portions of adjacent elements are matched substantially to one another.

1 ABSTRACT OF THE DISCLOSURE

2
3 A toy building block has a first pair of transversely
4 extending face panels having substantially identical studs and a
5 second pair of respectively transversely extending face panels
6 having substantially identical sockets. The sockets are shaped
7 and dimensioned to be push fit engageable with studs on adjacently
8 connecting corresponding blocks, the arrangement of studs and
9 sockets permitting connection with opposite gender face panels in
10 various connection configurations, including a face panel aligned
11 configuration and a face panel overlap configuration. The block
12 is formed of a moulded shell piece including wall panels moulded
13 to be configured rigidly extending transversely to one another in
14 fixed relationship with a defined angle therebetween, and a
15 closure piece connected to the shell piece to close a hollow
16 interior of the block.



FIG 2a

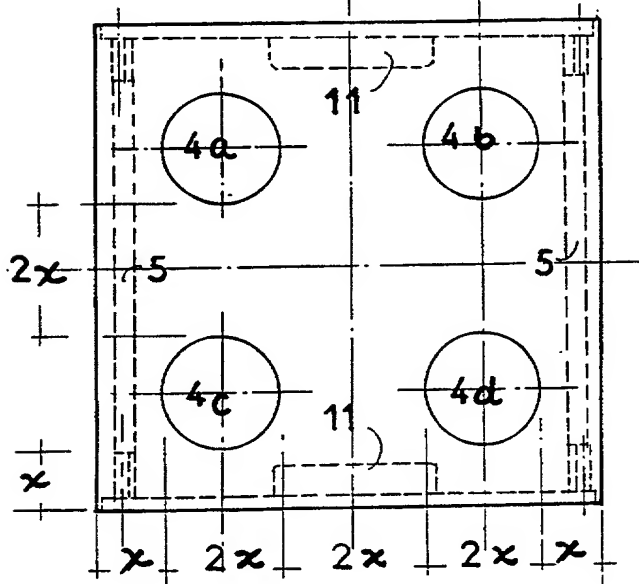
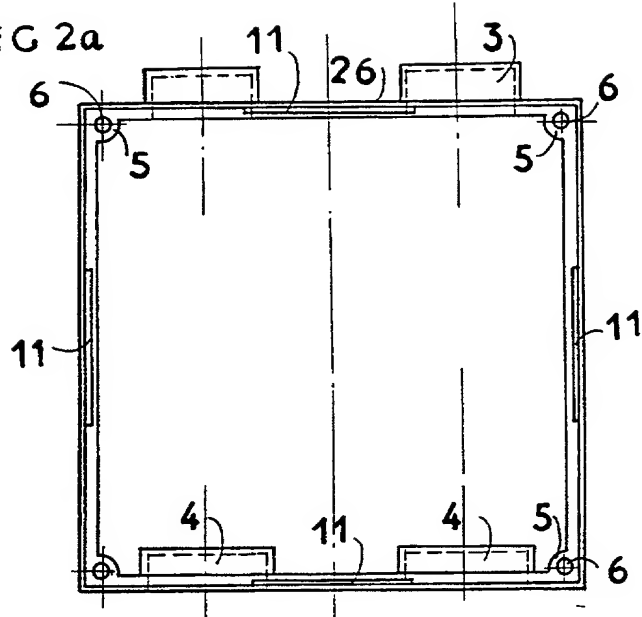


FIG 2b

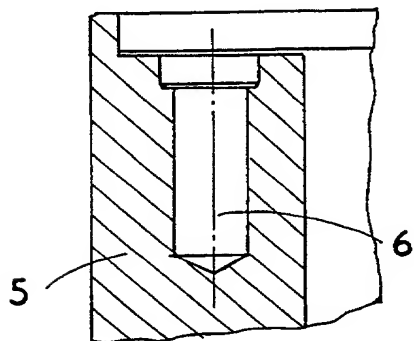


FIG 2c

FIG 3a

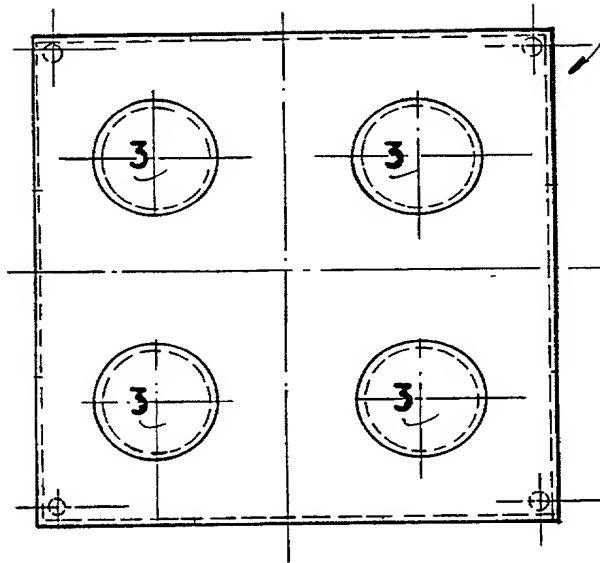


FIG 3b

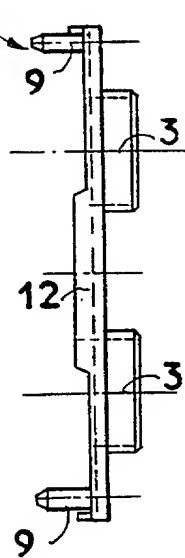


FIG 5

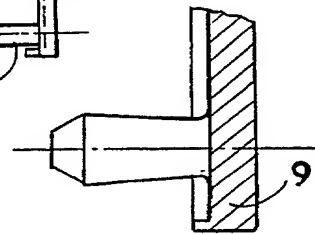


FIG 4a

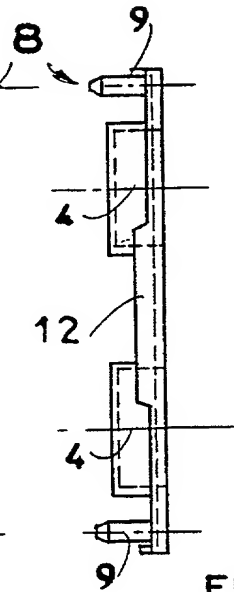
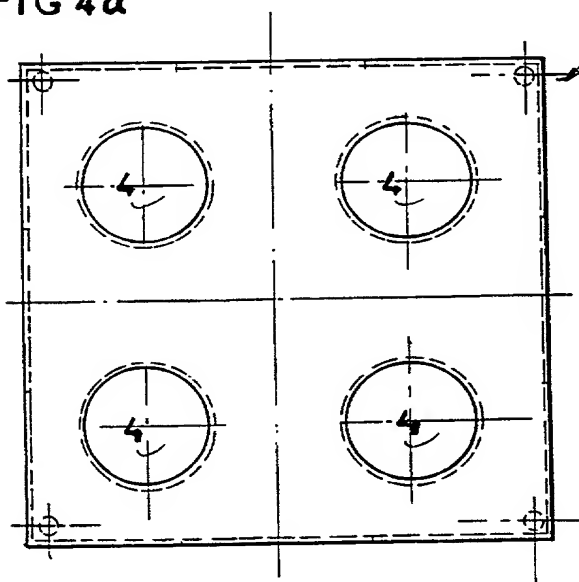


FIG 4b

FIG 6

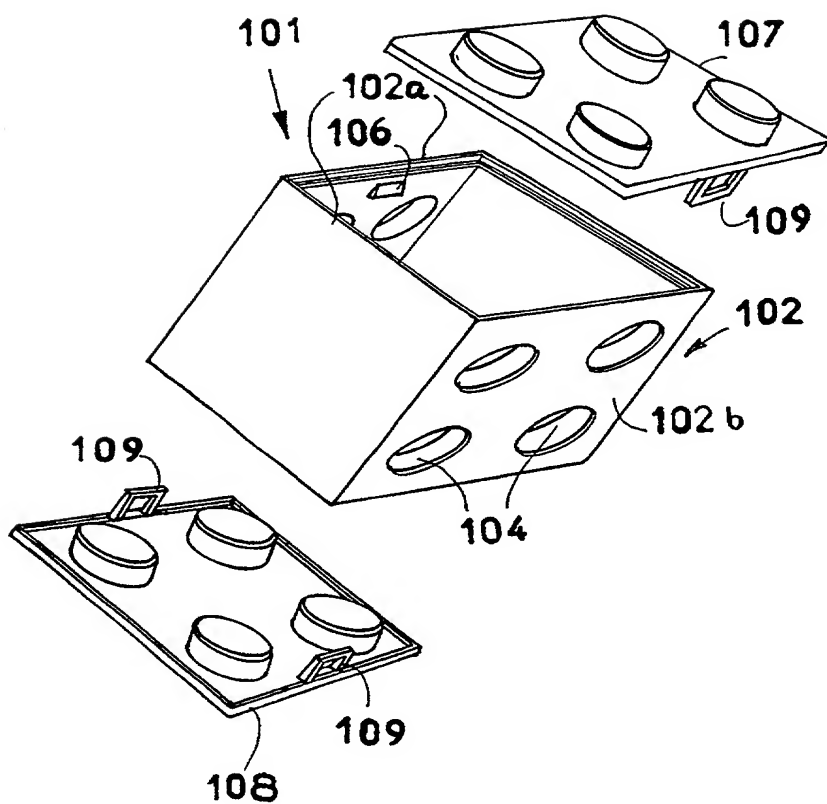


FIG 7

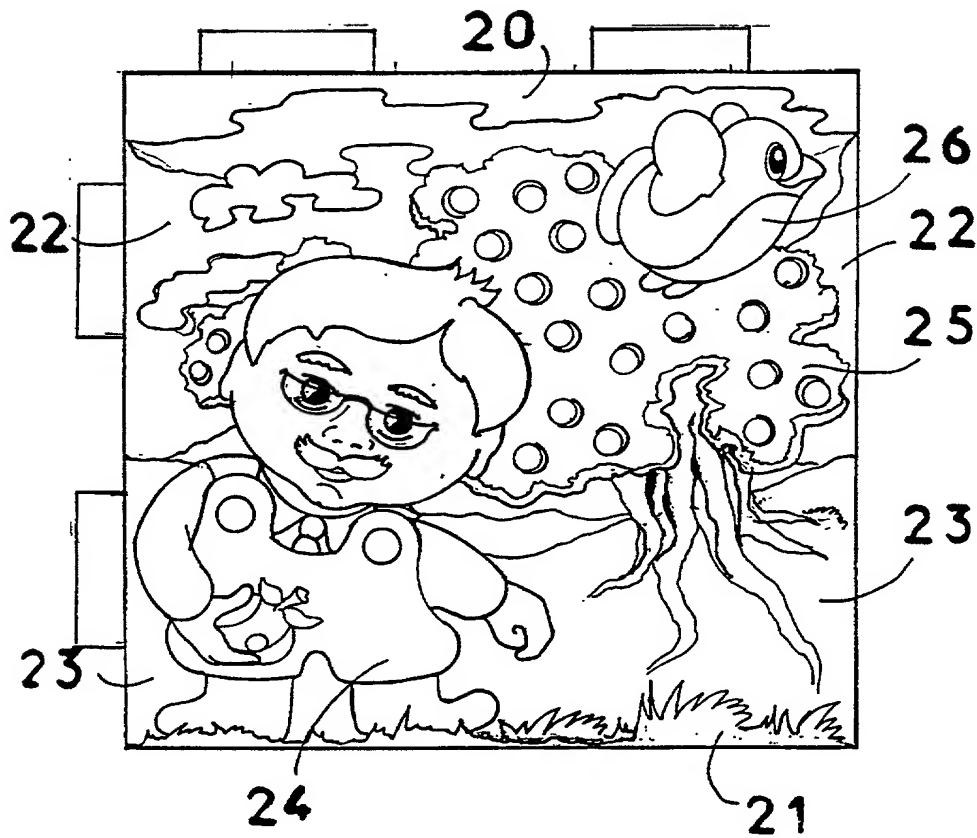
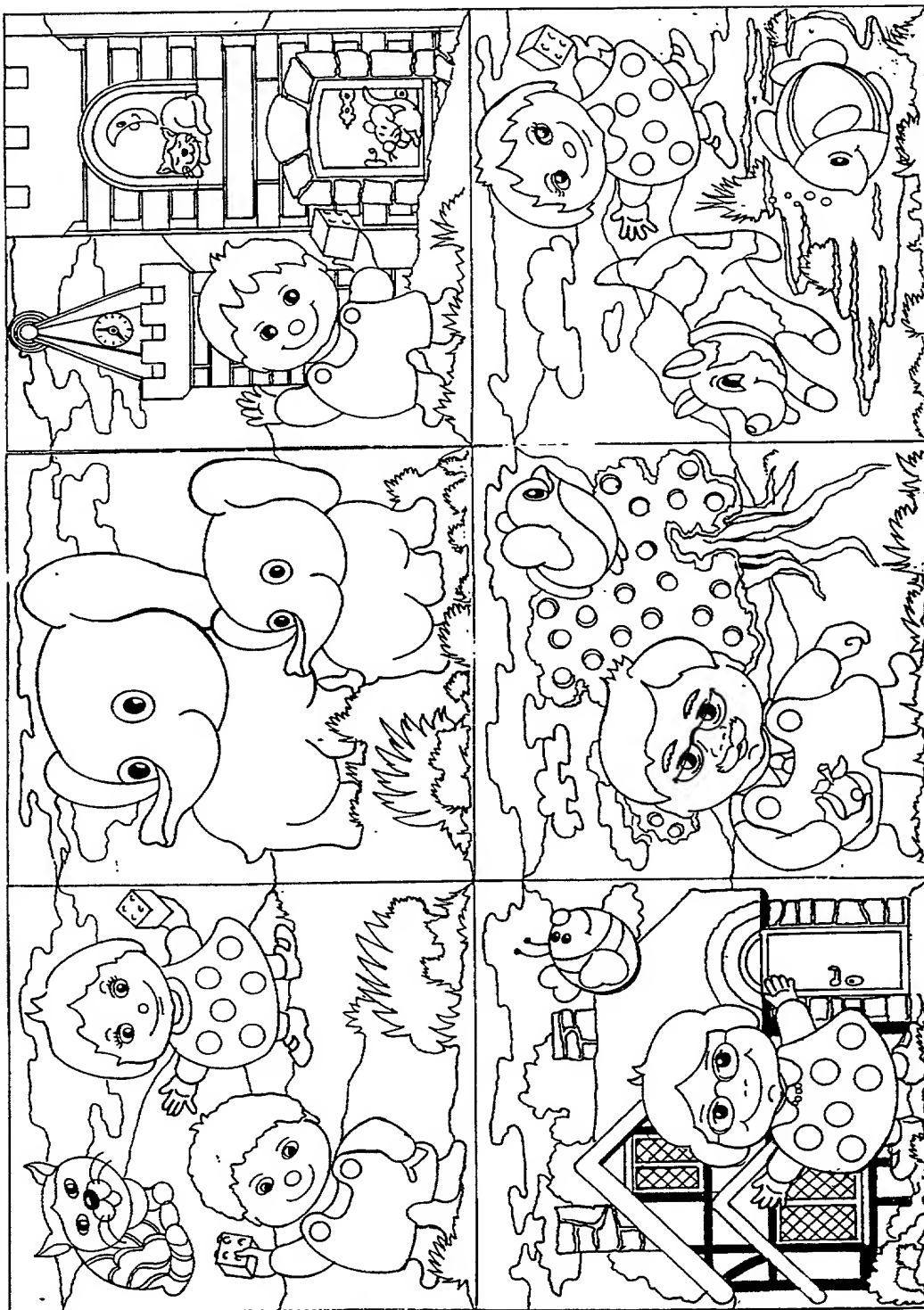


FIG 8



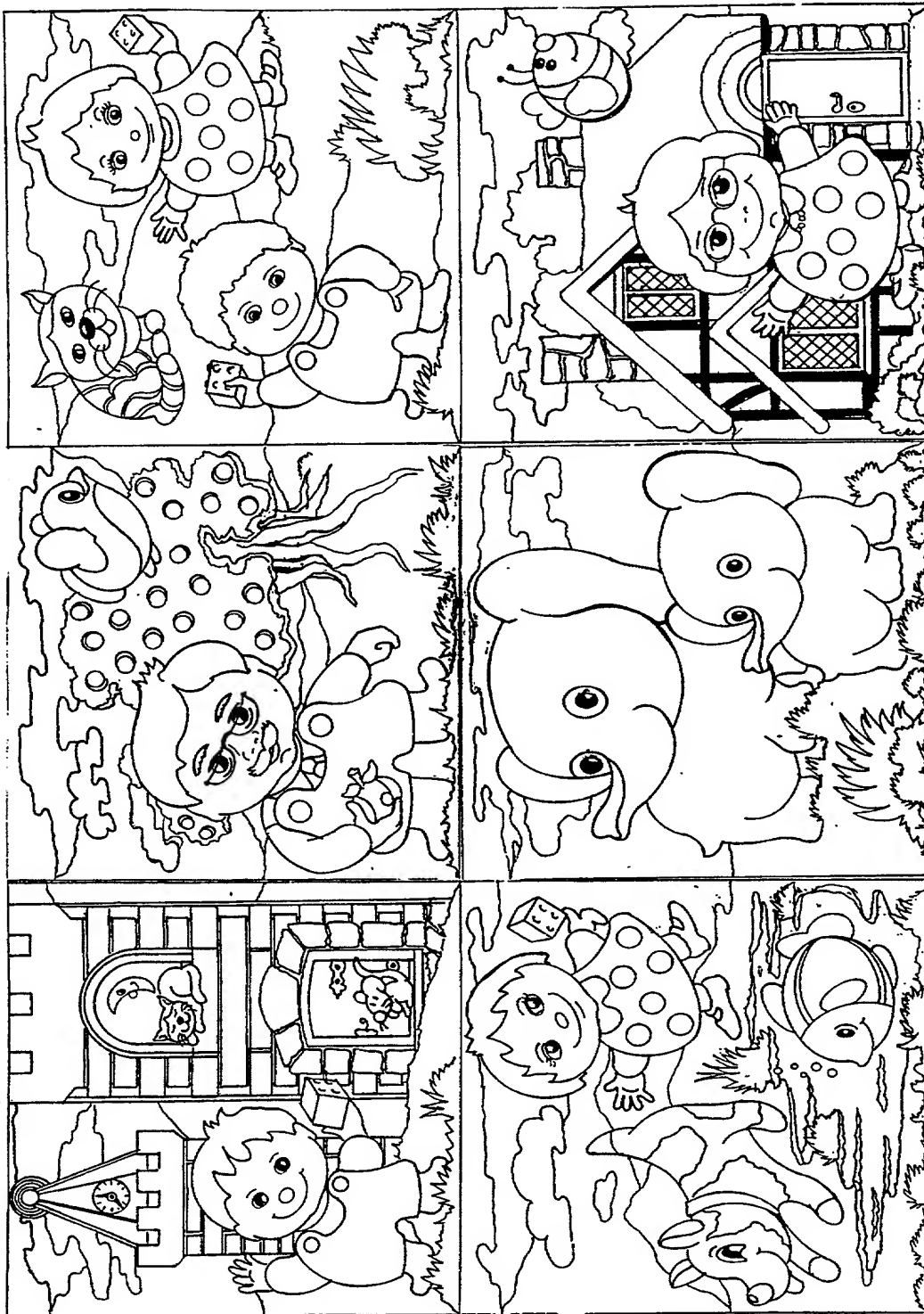


FIG 9

DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

As below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name, and

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed for and for which a patent is sought on the invention entitled

TOY BUILDING BLOCKS,

the specification of which

☐ is attached hereto.

☐ was filed on:

as application Serial Number:

and was amended on (if applicable):

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I verify that I am qualified as an independent inventor under Title 37, Code of Federal Regulations, Section 1.9(c), and my obligation to assign rights to this invention, if any, is to a qualified small business concern under Title 37, Code of Federal Regulations, Section 1.9(d).

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Serial No.	Country	Filing Date (D/M/YR)	Priority Claimed?
1. PCT/GB00/02620	PCT	07/07/00	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2. 9916095.4	GB	10/07/99	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3. 9926037.4	GB	04/11/99	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of

the prior application and the national or PCT international filing date of this application:

Application Ser. No.	Filing Date	Status (patented, pending, abandoned)
1.		
2.		

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

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David P. Gordon (29,996)
David S. Jacobson (39,235)
Thomas A. Gallagher (31,358)

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U.S.A.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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